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SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.
P.O. BOX 2938
MINNEAPOLIS, MN 55402

EXAMINER	
PEREZ, ANGELICA	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/050,237	BEN-ELI, DAVID	
	Examiner	Art Unit	
	Angelica M. Perez	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ ~~Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)~~ Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1, 4-5, 7, 9-13, 15 and 24-29 are rejected under 35 U.S.C. 102(e) as being anticipated by Rick (Rick et al.; US Patent No.: 6,738,438 B2).

Regarding claims 1 and 12, Rick teaches of a mobile communicator (column 8, lines 5-11; "...a subscriber station including the estimator") and a method (column 8, lines 5-11; "several implementations of this method are possible)" comprising: a search receiver to search for a base station using a search window size that adapts over time based on a changing channel condition between the base station and the mobile communicator (column 8, lines 24-37; where the size of the window is dynamically

changed "due to movement of the subscriber station or some other dynamic change in network conditions").

Regarding claim 4, Rick teaches all the limitations of claim 1. Rick also teaches where the search receiver includes a searcher having a variable size search window (column 8, lines 33-34); and a search window size controller to control the search window size of the searcher (column 8,lines 24-36), the search window size controller to occasionally change the search window size of the searcher to a full search window size for use in determining a present channel condition between the base station and the mobile communicator (column 8,lines 24-36; where the window size is changed according to "dynamic change in the network condition").

Regarding claim 5, Rick teaches all the limitations of claim 4. Rick further teaches where the search window size controller determines a subsequent search window size for the searcher based on the present channel condition (column 8,lines 24-36).

Regarding claim 7, Rick teaches all the limitations of claim 4. Rick further teaches where the search window size controller estimates a delay spread of the channel between the base station and the mobile communicator and determines a subsequent search window size for the searcher based on the estimated delay spread (column 10, lines 59-67; where "PN" offsets correspond to delays).

Regarding claim 9, Rick teaches all the limitations of claim 7. Rick further teaches where the search window size controller selects the subsequent search window

size from a plurality of predetermined search window sizes (column 11, table 1; where the window sizes are predetermined).

Regarding claim 10, Rick teaches all the limitations of claim 4. Rick further teaches of a quality measure unit to determine a quality measure for the base station using an output of the searcher (column 10, lines 10-28; were the TOA, energy per chip, interference power density are examples of quality measurements).

Regarding claim 11, Rick teaches all the limitations of claim 1. In addition, Rick teaches where the search receiver searches for multiple base stations using corresponding search window sizes that adapt over time based on changing channel condition between each corresponding base station and the mobile communicator (figure 1, items 102A-102-C and column 4, lines 35-42).

Regarding claim 13, Rick teaches all the limitations of claim 12. In addition, Rick teaches where adapting a size of the search window includes occasionally searching for the base station using a full search window size (column 8,lines 24-36; where the original size is the original full size and it is reduced later); and changing the search window size based on a result of one or more full search window searches (columns 7 and 8, lines 57-57 and 1-4, respectively; where the window size is changed according to "dynamic change in the network condition" and the process is iterated).

Regarding claim 15, Rick teaches all the limitations of claim 12. In addition, teaches where adapting a size of the search window includes determining whether receive energy has been detected outside a first search window size (column 12, lines 41-46); and changing the size of the search window to the first search window size

when receive energy has not been detected outside the first search window size (column 12, lines 41-46).

Regarding claim 24, Rick teaches of a method for searching for a base station from a mobile communicator, comprising: first searching for the base station using a large search window size (column 8,lines 24-36; where the original size is the original full size, large, and it is reduced later); determining a new search window size to search for the base station based on a result of the first searching; and second searching for the base station using the new search window size (columns 7 and 8, lines 57-57 and 1-4, respectively; where the window size is changed according to "dynamic change in the network condition" and the process is iterated).

Regarding claim 25, Rick teaches all the limitations of claim 16. In addition, Rick teaches where second searching includes searching for the base station using the new search window size for a first time duration (column 8, lines 38-46; where the default window size has an estimated. Also, column 3, lines 20-27; where the search cycle time is reduced; implying a first determined cycle time and a second reduced cycle time).

Regarding claim 26, Rick teaches all the limitations of claim 25. In addition, Rick teaches repeating first searching, determining, and second searching after the first time duration has elapsed (column 8, lines 38-46; where the default window size has an estimated time. Also, column 3, lines 20-27; where the search cycle time is reduced; implying a first determined cycle time and a second reduced cycle time).

Regarding claim 27, Rick teaches all the limitations of claim 26. In addition, Rick teaches adapting a length of the first time duration over time based on a predetermined criterion (column 8, lines 38-46; where the criteria can be a default window size).

Regarding claim 28, Rick teaches all the limitations of claim 24. In addition, Rick teaches where determining a new search window size includes selecting one of a plurality of predetermined search window sizes (column 11, table 1; where the window sizes are predetermined).

Regarding claim 29, Rick teaches all the limitations of claim 24. In addition, Rick teaches where determining a new search window size includes determining a size that will encompass a delay spread associated with the base station (column 8, lines 38-46; where delay is considered for determining the window size).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 2-3 and 16-17, 22-23 and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rick in view of Bayley (Bayley, Gwain; US Patent No.: 6,775,252 B1).

Regarding claim 2, Rick teaches all the limitations of claim 1. Rick further teaches where the search receiver uses a first search window size to search for the base station during normal operation (column 8, lines 20-27; where the "same window size" corresponds to a "normal operation" window assignment).

Although Rick teaches of change in window size, he does not specifically teach where the window changes to a second, larger search window size to search for the base station when received energy is detected outside of the first search window size for the base station.

In related art concerning a dynamic adjustment of search window size in response to signal strength, Bayley teaches where the window changes to a second, larger search window size to search for the base station when received energy is detected outside of the first search window size for the base station (columns 15 and 16, lines 55-67 and 1-7; where the size window are decreased/increased according to energy detected).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Bayley's second larger window in order to dynamically response to a pilot signal strength, as taught by Bayley.

Regarding claim 3, Rick in view of Bayley teaches all the limitations of claim 2. Rick further teaches where: the first search window size is selected to encompass a majority of possible delay spread conditions between the base station and the mobile communicator (column 8, lines 5-17; where it is inherent in the art to aim for a window

that encompasses a majority possible of delay spread conditions when having a priori information).

Regarding claim 16, Rick teaches of a method for searching for a base station from a mobile communicator (column 8, lines 5-11; "...a subscriber station including the estimator"), comprising searching for the base station using a first search window size (column 8, lines 20-27; where the "same window size" corresponds to a "normal operation" window assignment).

Rick does not specifically teach of occasionally checking for significant received energy outside of the first search window size for the base station; and searching for the base station for a predetermined period using a second search window size that is greater than the first search window size when significant received energy is detected outside of the first search window size during occasionally checking.

In related art, concerning a dynamic adjustment of search window size in resource to signal strength, Bayley teaches of occasionally checking for significant received energy outside of the first search window size for the base station; and searching for the base station for a predetermined period using a second search window size that is greater than the first search window size when significant received energy is detected outside of the first search window size during occasionally checking (columns 15 and 16, lines 55-67 and 1-7; where the size window are decreased/increased according to energy detected).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Bayley's

dynamic adjustment of search window size in response to signal strength, as taught by Bayley.

Regarding claim 17, Rick teaches all the limitations of claim 16. In addition, Bayley teaches where occasionally checking for significant received energy outside of the first search window size includes searching for the base station using a full search window size that is greater than the first search window size (columns 15 and 16, lines 55-67 and 1-7; where the size window are increased if energy detected is outside the original window).

Regarding claim 22, Rick in view of Terasawa teaches all the limitations of claim 16. In addition, Rick teaches where occasionally checking includes estimating a delay spread for the channel between the base station and the mobile communicator (column 10, lines 59-67; where "PN" offsets correspond to delays); and the second search window size is determined based upon the estimated delay spread (column 10, lines 59-67; where window size determination is based on the delay).

Regarding claims 23 and 31, Rick in view of Bayley teaches all the limitations of claim 16 and 24, respectively. In addition, Rick teaches of a mobile communicator that is programmed to search for one or more base stations (figure 1, items 102A-102-C and column 4, lines 35-42).

Regarding claim 30, Rick teaches all the limitations of claim 24. In addition, Rick teaches where determining a new search window size includes: determining whether significant received energy was detected during the first searching that was outside of a first search window (column 12, lines 41-46), and setting the new search window size

equal to the size of the first search window when significant received energy was not detected outside of the first search window (column 12, lines 41-46).

Rick does not specifically teach where the first search window having a size that is smaller than the large search window size.

In related art, concerning a dynamic adjustment of search window size in resource to signal strength, Bayley teaches where the first search window having a size that is smaller than the large search window size (columns 15 and 16, lines 55-67 and 1-7; where the size window are decreased/increased according to energy detected).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Bayley's dynamic adjustment of search window size in response to signal strength, as taught by Bayley.

5. Claims 6, 8 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rick in view of Terasawa (Terasawa, Daisuke; US Pub. No.: 2002/0,122,396 A1).

Regarding claim 6, Rick teaches all the limitations of claim 4. Rick further teaches where: the full search window size is related to an expected worst case delay spread in the channel between the base station and the mobile communicator (paragraph 47, where an infinite window encompasses a worst case delay spread condition in the channel between the base station and the mobile communicator).

Rick does not specifically teach where the full search window size is a size that is expected to encompass a worst case delay spread condition in the channel between the base station and the mobile communicator.

In related art, concerning handoff control in an asynchronous CDMA system, Terasawa teaches where the full search window size is a size that is expected to encompass a worst case delay spread condition in the channel between the base station and the mobile communicator (paragraph 47, where an infinite window encompasses a worst case delay spread condition in the channel between the base station and the mobile communicator).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Terasawa's infinite window size in order to encompass a worst case delay spread condition in the channel, as taught by Terasawa.

Regarding claim 8, Rick teaches all the limitations of claim 7.

Rick does not specifically teach where the search window size controller determines a smallest search window size that encompasses all significant paths within the estimated delay spread of the channel.

In related art, concerning handoff control in an asynchronous CDMA system, Terasawa teaches where the search window size controller determines a smallest search window size that encompasses all significant paths within the estimated delay spread of the channel (paragraph 51; e.g., " smallest possible window size").

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Terasawa's smallest window size in order to further limit the search space, as taught by Terasawa.

Regarding claim 14, Rick teaches all the limitations of claim 12. In addition, Rick teaches where adapting a size of the search window includes estimating a delay spread of a channel between the base station and the mobile communicator (column 10, lines 59-67; where "PN" offsets correspond to delays).

Rick does not specifically teach of selecting a smallest search window size that encompasses all significant paths within the estimated delay spread of the channel.

In related art, concerning handoff control in an asynchronous CDMA system, Terasawa teaches of selecting a smallest search window size that encompasses all significant paths within the estimated delay spread of the channel (paragraph 51; e.g., " smallest possible window size").

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Terasawa's smallest window size in order to further limit the search space, as taught by Terasawa.

6. Claims 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rick in view of Terasawa (Terasawa, Daisuke; US Pub. No.: 2002/0,122,396 A1).

Regarding claim 18, Rick in view of Bayley teaches all the limitations of claim 17. In addition, Rick teaches where the first search window size is a size that is expected to encompass a majority of possible delay spread conditions in a channel between the

base station and the mobile communicator (column 8, lines 5-17; where it is inherent in the art to aim for a window that encompasses a majority possible of delay spread conditions when having a priori information).

Rick does not specifically teach where the full search window size is a size that is expected to encompass a worst case delay spread condition in the channel between the base station and the mobile communicator.

In related art, concerning handoff control in an asynchronous CDMA system, Terasawa teaches where the full search window size is a size that is expected to encompass a worst case delay spread condition in the channel between the base station and the mobile communicator (paragraph 47, where an infinite window encompasses a worst case delay spread condition in the channel between the base station and the mobile communicator).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Terasawa's infinite window size in order to encompass a worst case delay spread condition in the channel, as taught by Terasawa.

Regarding claim 19, Rick in view of Terasawa teaches all the limitations of claim 17. In addition, Terasawa teaches where the second search window size is equal to the full search window size (paragraph 47, where an infinite window comprises a full window size).

Regarding claim 20, Rick in view of Terasawa teaches all the limitations of claim 17. In addition, Terasawa teaches where the second search window size is less than or

equal to the full search window size (paragraph 66, where "the intersection of the search windows is increased or decreased..." where a second window can be smaller than an original full window size).

Regarding claim 21, Rick in view of Terasawa teaches all the limitations of claim 16.

Rick does not specifically teach where occasionally checking includes checking at regular intervals.

In related art, concerning handoff control in an asynchronous CDMA system, Terasawa teaches where occasionally checking includes checking at regular intervals (paragraph 37, e.g., "...to limit the search space...limit the period of PN sequences used...to approximately 10 ms or shorter...").

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Rick's adaptable search size window with Terasawa's regular intervals in order to regulate the cycles, as taught by Terasawa .

Conclusion

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure .

US Patent No.: 6,370,397 B1; refers to search window delay tracking CDMA communication systems.

Pub No.: 2003/0114172 A1; refers to a method and apparatus for reducing pilot search times utilizing mobile station location information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 703-305-8724. The examiner can normally be reached on 7:00 a.m. - 3:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 703-308-7745. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and for After Final communications.

Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

Angelica Perez
(Examiner)

NAY MAUNG
SUPERVISORY PATENT EXAMINER

Art Unit 2684

January 21, 2005